**Grantee: Rhode Island** 

**Grant:** B-10-DF-44-0001

July 1, 2017 thru September 30, 2017 Performance Report



Grant Number: Obligation Date: Award Date:

B-10-DF-44-0001 11/10/2010

Grantee Name: Contract End Date: Review by HUD:

Rhode Island Submitted - Await for Review

Grant Award Amount: Grant Status: QPR Contact:

\$8,935,237.00 Active Laura Sullivan

LOCCS Authorized Amount: Estimated PI/RL Funds:

\$8,935,237.00

**Total Budget:** \$8,935,237.00

### **Disasters:**

#### **Declaration Number**

FEMA-1894-RI

#### **Narratives**

#### **Disaster Damage:**

The flooding that occurred between March 12th and 30th 2010 (FEMA declaration DR-1894) was the worst in over 100 years in the State of Rhode Island, and was unprecedented in scale, ubiquity, and overall impact to the State. The disaster was caused by exceptionally heavy spring rainfall along the Northeast coast. Fully 16.32 inches of rain accumulated in Rhode Island in March, eclipsing the previous record of precipitation by more than an inch; more than 8.6 inches of rainfall over March 28-30th This downpour had two major effects on Rhode Island's physical geography:

- 1.) the Blackstone, Pawtuxet, Woonasquatucket, Pawcatuck and other rivers reached record heights and overflowed. The Pawtuxet crested at 20.79 feet, 11 inches above the 9 feet flood level.
- 2.) The month of rain had led to super-saturation of permeable surfaces, which led to not only a lessening of the effectiveness of watersheds and other river-flood mitigating features, but also to the pooling of non-river waters in low topographies and the seepage of ground waters into basements and foundations. The March 2010 disaster was widespread and delocalized, as flood damage occurred around multiple rivers and low-altitude points.

The flooding itself led to in excess of \$200 million dollars of damage, as conservatively estimated by the Governor's office, to Rhode Island infrastructure, homes and businesses. Multiple utility substations, including a major substation in Westerly, Rhode Island, were flooded, and more than 10,000 households lost power for multi-day periods. Sections of forty major arterial roads and highways were closed, with many incurring significant structural damage; sections of I-95 were shutdown for three days, restricting north-south movement in the State. Numerous bridges, dams and wastewater treatment plants were damaged to the point of requiring replacement or major structural repairs.

Several hundred Rhode Islanders were evacuated during the flood; over 25,000 applied for FEMA Individual Assistance related to disaster needs. Displaced and affected homeowners were disproportionately comprised of low income individuals (39%), according to the Preliminary Damage Assessment. Total damage to homes and individual property is estimated to have exceeded \$100 million.

Perhaps hardest hit were businesses in Rhode Island. Total disaster damage to businesses exceeded \$70 million. Most affected were areas around the Pawtuxet River, where the Natick business district and commercial corridor in West Warwick was submerged under 10 feet of water. More than 3,000 businesses statewide applied for SBA disaster assistance loans.

Intensifying these effects, especially in the business sector, was the already weakened Rhode Island economy. Rhode Island was hit particularly hard by the recession; unemployment at the time of the flood was 12.5%, almost 3.0 points above the national level, and the State budget deficit exceeded \$220 million. Both the damage from the flood, and the temporary and long term stasis and confusion the flood caused, have exacerbated the State's economic situation.

#### **Recovery Needs:**

Rhode Island is committed to a two tier Recovery Planning strategy, as reflected in the eligible activities under this Action Plan; Short Term strategies, to identify and address needs resultant from flood damage, and Long-Term strategies, to implement mitigation improvements and projects to lessen the destruction from similar disasters in the future. OHCD hopes to use CDBG-DR as the non-federal match to leverage funding for disaster recovery projects conducted by the US Army Corps of Engineers (USACE), RIEMA, and other state entities.

Short and Long Term Recovery Strategies



Short term strategies are focused on 'making whole' effected individuals, businesses and municipalities. 'Short Term' projects funded or leveraged through CDBG-DR funds will include financial assistance to businesses which lost crucial assets or operating revenue as a result of the flood; assistance to individuals with eligible unmet need; repairs, rehabilitation and debris removal programs for effected private property; and assistance to municipalities for repairs to damaged infrastructure and the provision of public services necessary as a result of the flood.

Long term strategies are focused on improving Rhode Island's ability to cope with future disasters, and attempting to mitigate long term negative impacts through the strategic awarding of funds. Chief among these initiatives are the installation of hazard mitigation factors in conjunction with rehabilitation of infrastructure and residences affected by the March 2010 flood, and the use of CDBG-DR funds for leveraging the buyout of flood-zone properties by other state programs. In awarding funds, the CDBG-DR steering committee will also consider negative consequences that can manifest and increase in the long term, if specific disaster needs are not meet.

#### Leveraging Strategy

OHCD believes that coordination of all Disaster Recovery programs in the state is necessary to achieve the best possible result. OCHD has coordinated with RIEMA, to confer on joint funding of both Public Assistance (10% match requirement) and Hazard Mitigation projects (25% match requirement), and the USACE, to discuss match funding for large scale regional hazard mitigation projects. When Economic Development Agency monies, as mentioned in the Supplemental Appropriations Act-2010, become available, OHCD will incorporate this resource into the overall joint-funding strategy.

Fifteen municipalities and multiple state agencies have submitted applications. These 15 municipalities include the 5 most severely effected cities, and total damage and need among these municipalities is estimated to account for more than two thirds of the state total. The eligible activities and allocation amounts this Action Plan articulates were informed by these responses, as well as disaster and assistance data received from RIEMA, FEMA, SBA and HUD.

#### **Public Comment:**

The Rhode Island OHCD will post a draft action plan for the use of the funds, and any substantial amendment to the plan as described above, on the website for a period of not less than (7) calendar days; public comments will be accepted during this time.

This Depart Devied

To Doto

Adequate notification will be given to local and regional Planning Commissions and units of local government, and a Notice of Posting for public comments will be published in the following media, in both English and Spanish:

The Providence Journal 75 Fountain Street

Providence RI, 02902

Providence en Español or 45 Meadow View Blvd. North Providence, RI 02904 North Providence, RI 02904 North Providence, RI 02911 America News en Español 570 Broad Street, Suite 302 Providence, RI 02907

(online only) (print only)

All comments will be reviewed and incorporated into the draft plan for submission to HUD.

E-mail your comments toLaura.Sullivan@doa.ri.gov or mail your comments to:

Laura Sullivan, CDBG-DR Program Manager Office of Housing and Community Development One Capitol Hill, 3rd Floor Providence, RI 02908

Overall	ils Report Period	To Date
Total Projected Budget from All Sources N/A	4	\$8,614,528.00
Total Budget \$0.	.00	\$8,614,528.00
Total Obligated \$0.	.00	\$8,935,237.00
Total Funds Drawdown \$77	7,589.09	\$7,404,741.88
Program Funds Drawdown \$77	7,589.09	\$7,404,741.88
Program Income Drawdown \$0.	.00	\$0.00
Program Income Received \$0.	.00	\$0.00
Total Funds Expended \$77	7,589.09	\$7,404,741.98
Most Impacted and Distressed Expended \$0.	.00	\$0.00
Match Contributed \$0.	.00	\$7,553,315.07



# **Progress Toward Required Numeric Targets**

Requirement	Target	Actual
Overall Benefit Percentage (Projected)		92.53%
Overall Benefit Percentage (Actual)		96.45%
Minimum Non-Federal Match	\$0.00	\$7,553,315.07
Limit on Public Services	\$1,340,285.55	\$0.00
Limit on Admin/Planning	\$893,523.70	\$949,413.84
Limit on State Admin	\$0.00	\$403,770.61
Most Impacted and Distressed Threshold (Projected)	\$0.00	\$0.00

# **Overall Progress Narrative:**

The State continues to provide a significant amount of technical assistance on an ongoing basis via telephone and email, particularly with regard to federal labor standards. This quarter, OHCD has worked closely with West Warwick to move projects forward in a timely manner. Contract extensions to remaining Floods projects include timeline benchmarks with continued funding tied to performance. The CDBG-DR Technical Review Committee has approved one new activity. A substantial amendment to the Action Plan will be submitted to HUD next quarter, after the public comment period is held.

# **Project Summary**

Project #, Project Title	ect Title This Report Period To Date		te
	Program Funds Drawdown	Project Funds Budgeted	Program Funds Drawdown
1, Administration	\$18,123.41	\$446,761.00	\$403,770.61
2, Public Facilities and Improvements	\$0.00	\$5,539,653.77	\$4,332,396.13
3, Housing Rehabilitation	\$0.00	\$294,472.08	\$294,472.08
4, Economic Recovery	\$0.00	\$1,509,051.64	\$1,509,051.64
5, Property Acquisition	\$0.00	\$319,408.19	\$319,408.19
6, Planning	\$59,465.68	\$825,890.32	\$545,643.23



# **Activities**

**Projected Start Date:** 

Project # / Title: 1 / Administration

**Grantee Activity Number:** 1a

Activity Title: State Administration

Activity Category: Activity Status:

Administration Under Way

Project Number: Project Title:

Administration

03/29/2010 09/30/2019

Benefit Type: Completed Activity Actual End Date:

**Projected End Date:** 

National Objective: Responsible Organization:

N/A State of Rhode Island2

Overall	Jul 1 thru Sep 30, 2017	To Date
Total Projected Budget from All Sources	N/A	\$431,761.00
Total Budget	\$0.00	\$431,761.00
Total Obligated	\$0.00	\$431,761.00
Total Funds Drawdown	\$18,123.41	\$388,770.61
Program Funds Drawdown	\$18,123.41	\$388,770.61
Program Income Drawdown	\$0.00	\$0.00
Program Income Received	\$0.00	\$0.00
Total Funds Expended	\$18,123.41	\$388,770.61
State of Rhode Island1	(\$42,364.47)	\$0.00
State of Rhode Island2	\$60,487.88	\$388,770.61
Most Impacted and Distressed Expended	\$0.00	\$0.00
Match Contributed	\$0.00	\$0.00

## **Activity Description:**

Activities were varied and related to the disasters which occurred in March, 2010. Activities range from infrastructure improvements, business assistance, residential rehabilitation and planning.

Budget increased by \$88,141 as a result of the transfer of activity delivery costs previously budgeted as local administration (Activity 1b) to non-admin activities, per guidance provided by HUD during June 2014 monitoring visit.

June 2015: Budget increased by \$44,319.44 as a result of the transfer of activity delivery costs previously budgeted as local administration (Activity 1b) to non-admin activities, per guidance provided by HUD during June 2014 monitoring visit.

November 2015: Budget increased by \$7,540 as a result of the transfer of activity delivery costs previously budgeted as local administration (Activity 1b) to non-admin activities, per guidance provided by HUD during June 2014 monitoring visit.



## **Location Description:**

State offices are located at One Capitol Hill - 3rd Floor, Providence, Rhode Island. Local programs will be adminstered through local Town offices.

Disaster declaration was statewide. Activities funded are distributed throughout the State.

### **Activity Progress Narrative:**

The State continues to provide a significant amount of technical assistance on an ongoing basis via telephone and email, particularly with regard to federal labor standards. This quarter, OHCD has worked closely with West Warwick to move projects forward in a timely manner. Contract extensions to remaining Floods projects include timeline benchmarks with continued funding tied to performance. The CDBG-DR Technical Review Committee has approved one new activity. A substantial amendment to the Action Plan will be submitted to HUD next quarter, after the public comment period is held.

## **Accomplishments Performance Measures**

**No Accomplishments Performance Measures** 

#### **Beneficiaries Performance Measures**

No Beneficiaries Performance Measures found.

## **Activity Locations**

No Activity Locations found.

# **Other Funding Sources Budgeted - Detail**

No Other Match Funding Sources Found

Other Funding Sources Amount

No Other Funding Sources Found Total Other Funding Sources

# Project # / Title: 2 / Public Facilities and Improvements

**Grantee Activity Number:** 14

Activity Title: Johnston, Pump Stations

Activity Category: Activity Status:

Rehabilitation/reconstruction of a public improvement Under Way

Project Number: Project Title:

Public Facilities and Improvements

Projected Start Date: Projected End Date:

09/07/2011 03/31/2018

Benefit Type: Completed Activity Actual End Date:



Area ()

### **National Objective:**

Responsible Organization:

Low/Mod

Town of Johnston

Overall	Jul 1 thru Sep 30, 2017	To Date
Total Projected Budget from All Sources	N/A	\$431,902.00
Total Budget	\$0.00	\$431,902.00
Total Obligated	\$0.00	\$431,902.00
Total Funds Drawdown	\$0.00	\$45,658.68
Program Funds Drawdown	\$0.00	\$45,658.68
Program Income Drawdown	\$0.00	\$0.00
Program Income Received	\$0.00	\$0.00
Total Funds Expended	\$0.00	\$45,658.68
Town of Johnston	\$0.00	\$45,658.68
Most Impacted and Distressed Expended	\$0.00	\$0.00
Match Contributed	\$0.00	\$0.00

# **Activity Description:**

Two Johnston sewer pump stations were inundated during the March 2010 Floods. The Town originally received CDBG-DR funds for a feasibility study to evaluate options such as floodproofing, elevating, or relocating the pump stations. The Town completed the study of the sewer pump stations and selected an alternative to implement.

The selected alternative is to relocate two sewer pump stations out of the 100 year floodplain and re-route nearby sewer pipes. The Town requested CDBG-DR funds to implement the selected alternative. OHCD approved the request, and after discussions with the Town, amended the original activity scope and budget to include implementation. This activity now includes relocation of two sewer pump stations and re-routing of sewer pipes.

The projected end date has been extended. FEMA has issued new advistory flood maps with changes to base flood elevation that affect the design of this project. The Town has requested an extension as a result of the new base flood elevations.

June 2015: Budget increased by \$12,565 to include ADCs.

November 2015: Projected end date extended. Project delayed due to changes to FEMA flood maps in the service area and issues obtaining easements. The Town has now obtained the necessary easements.

## **Location Description:**

River Drive and South Bennett Drive (AKA Lafazia Drive), Johnston, RI.

#### **Activity Progress Narrative:**

Construction is complete. The Town has indicated that the contractor has been paid, but OHCD has not yet received a request for payment for construction. As of the end of the quarter, the U.S. Department of Labor investigation into labor standards compliance remained underway.

# **Accomplishments Performance Measures**

**No Accomplishments Performance Measures** 



# **Beneficiaries Performance Measures**

No Beneficiaries Performance Measures found.

# **Activity Locations**

No Activity Locations found.

# **Other Funding Sources Budgeted - Detail**

**No Other Match Funding Sources Found** 

Other Funding Sources Amount

No Other Funding Sources Found

**Total Other Funding Sources** 



Activity Title: Shippee Avenue Green Infrastructure

**Activitiy Category:** 

Rehabilitation/reconstruction of a public improvement

**Project Number:** 

2

**Projected Start Date:** 

01/01/2017

**Benefit Type:** 

Area ()

**National Objective:** 

Low/Mod

**Activity Status:** 

Planned

**Project Title:** 

Public Facilities and Improvements

**Projected End Date:** 

12/31/2018

**Completed Activity Actual End Date:** 

**Responsible Organization:** 

Town of West Warwick

Overall	Jul 1 thru Sep 30, 2017	To Date
Total Projected Budget from All Sources	N/A	\$200,305.32
Total Budget	\$0.00	\$200,305.32
Total Obligated	\$0.00	\$200,305.32
Total Funds Drawdown	\$0.00	\$0.00
Program Funds Drawdown	\$0.00	\$0.00
Program Income Drawdown	\$0.00	\$0.00
Program Income Received	\$0.00	\$0.00
Total Funds Expended	\$0.00	\$0.00
State of Rhode Island2	\$0.00	\$0.00
Town of West Warwick	\$0.00	\$0.00
Most Impacted and Distressed Expended	\$0.00	\$0.00
Match Contributed	\$0.00	\$0.00

#### **Activity Description:**

Stormwater green infrastructure improvements to reduce the peak stormwater flow rate and runoff volume downhill of Shippee Avenue. Planned improvements include a bioretention basin, a linear bioretention basin on a roadway bump out, and a subsurface sidewalk storage system.

The area of Shippee Avenue and south to Washington Street had major flooding issues during the 2010 Floods. Streets, homes, and businesses all sustained damage due to flood waters. Fire Dept. records show a minimum of ten water/flood calls in this neighborhood during the 2010 Flood event.

#### **Location Description:**

Shippee Avenue neighborhood in West Warwick. Green infrastructure improvements to be installed along Shippee Ave and nearby streets to the north (uphill), to benefit Shippee Ave and nearby streets to the south (downhill).

#### **Activity Progress Narrative:**

OHCD attended a meeting with the Town and consulting engineer. Based on this meeting, the draft Environmental Assessment is being edited to reflect the finalized project scope. It has been determined that 5 utility easements across residential property will be necessary for the project. OHCD is providing ongoing technical assistance as the URA process moves forward.



# **Accomplishments Performance Measures**

**No Accomplishments Performance Measures** 

## **Beneficiaries Performance Measures**

No Beneficiaries Performance Measures found.

# **Activity Locations**

No Activity Locations found.

# **Other Funding Sources Budgeted - Detail**

**No Other Match Funding Sources Found** 

Other Funding Sources Amount



Activity Title: East Providence, State Street Infrastructure

**Activitiy Category:** 

Construction/reconstruction of streets

**Project Number:** 

2

**Projected Start Date:** 

08/01/2013

**Benefit Type:** 

Area ()

**National Objective:** 

Low/Mod

**Activity Status:** 

Cancelled

**Project Title:** 

Public Facilities and Improvements

**Projected End Date:** 

12/31/2017

**Completed Activity Actual End Date:** 

**Responsible Organization:** 

City of East Providence

Overall	Jul 1 thru Sep 30, 2017	To Date
Total Projected Budget from All Sources	N/A	\$0.00
Total Budget	\$0.00	\$0.00
Total Obligated	\$0.00	\$431,660.00
Total Funds Drawdown	\$0.00	\$0.00
Program Funds Drawdown	\$0.00	\$0.00
Program Income Drawdown	\$0.00	\$0.00
Program Income Received	\$0.00	\$0.00
Total Funds Expended	\$0.00	\$0.00
City of East Providence	\$0.00	\$0.00
Most Impacted and Distressed Expended	\$0.00	\$0.00
Match Contributed	\$0.00	\$0.00

#### **Activity Description:**

Predevelopment, design, construction/reconstruction of culverts and other improvements to the stormwater infrastructure under Warren Avenue in the State Street neighborhood, a predominately low/moderate income area. These improvements will correct damage and prevent future flooding in an area heavily damaged by the March 2010 Floods.

This was originally submitted as a single activity with a budget of \$600,000 plus \$15,000 in local admin (Activity 1b). The City decided to split it into 2 activities, or 2 phases in the same general location. The first is for river bank repairs for \$105,000 (removal of invasive species, debris and non-structural improvements to flow). That project is now under activity 25 in DRGR, with a budget of \$105,000, including activity delivery costs. The second is replacing and/or enlarging the culverts under State Street with a budget of \$510,000, including activity delivery costs. This remains activity 6 in DRGR.

The combined budgets of Activities 6 and 25 have been increased to include activity delivery costs previously budgeted as local administration (Activity 1b), per guidance provided by HUD during June 2014 monitoring visit.

November 2015: The projected end date has been extended as a result of delays.

January 2017: Budget decreased from \$510,000 to \$431,660, due to limitations on expenditures outside of the eligible jurisdiction.

October 2017: Funds have been deobligated and this activity will be cancelled. The City has been unable to obtain a necessary construction easement and is not expected to complete construction during the contract term. Prior to



cancelation, OHCD provided technical assistance on procurement environmental review, and URA to support the applicant's regulatory compliance efforts and to minimize impacts on the applicant.

## **Location Description:**

Census Tract - 103, Block Group - 2, Warren Avenue.

The service area is located in the east central portion of East Providence, within Providence County in the State of Rhode Island, bounded by Waterman Avenue to the south, Almeida Avenue to the west, Seekonk Massachusetts border to the east. The principle drainage features in the area are the Runnins River, which bound the eastern boundary of the area and flows in a southern direction, and its unnamed tributary, which flows along the northern portion of the study area and converges with the Runnins River in Mass., at a point just east of the study area.

# **Activity Progress Narrative:**

Due to delays, including delays in obtaining a necessary construction easement, the City does not expect to complete the activity during the contract term. The City plans to pursue alternative funding for this activity. Funds have been deobligated, and the activity will be cancelled when the contract expires. OHCD will submit an Action Plan amendment with a new activity to HUD in the next quarter.

# **Accomplishments Performance Measures**

**No Accomplishments Performance Measures** 

#### **Beneficiaries Performance Measures**

No Beneficiaries Performance Measures found.

## **Activity Locations**

No Activity Locations found.

## **Other Funding Sources Budgeted - Detail**

**No Other Match Funding Sources Found** 

Other Funding Sources Amount

No Other Funding Sources Found Total Other Funding Sources

Project # / Title: 6 / Planning

**Grantee Activity Number: 23** 

Activity Title: Wastewater Climate Vulnerability Assessment

Activity Category: Activity Status:

Planning Completed

Project Number: Project Title:

Planning

Projected Start Date: Projected End Date:



10/01/2013

**Benefit Type:** 

Area ()

**National Objective:** 

N/A

06/30/2017

**Completed Activity Actual End Date:** 

04/20/2017

**Responsible Organization:** 

State of Rhode Island, Dept. of Environmental

Overall	Jul 1 thru Sep 30, 2017	To Date
Total Projected Budget from All Sources	N/A	\$150,000.00
Total Budget	\$0.00	\$150,000.00
Total Obligated	\$0.00	\$150,000.00
Total Funds Drawdown	\$0.00	\$150,000.00
Program Funds Drawdown	\$0.00	\$150,000.00
Program Income Drawdown	\$0.00	\$0.00
Program Income Received	\$0.00	\$0.00
Total Funds Expended	\$0.00	\$150,000.00
State of Rhode Island, Dept. of Environmental	\$0.00	\$150,000.00
Most Impacted and Distressed Expended	\$0.00	\$0.00
Match Contributed	\$0.00	\$72,900.00

## **Activity Description:**

An assessment of statewide wastewater collection and treatment vulnerability to flooding and climate change. These assessments would seek to predict, plan for, and if possible mitigate wastewater system flooding and related impacts as experienced in 2010.

The flooding of 2010 resulted in the submergence of two major wastewater treatment facilities - one in Warwick, which treats about 3.5 million gallons per day and the other in West Warwick, which treats some 5.2 million gallons. The Cranston WPCF experienced partial flooding of the facility site and limited structural flooding. The resulting repair costs were approximately \$25 million. In addition, two major pumping stations were submerged (Cranston's Pontiac Pumping Station and Westerly's New Canal Pumping Station). These station failures resulted in sewage overflows and backups until crews could establish bypass pumping and, in time, make lengthy repairs. Statewide, numerous smaller stations were also submerged or over taxed. These failures required communities to either establish bypass pumping systems or pay for continuous septage hauling to pump down incoming wastewater and transport it overland to the wastewater treatment facility until crews could repair the stations. DEM's Office of Water Resources logged in 55 reported system failures or overflows between the flooding of March 14/15 2010 and March 30/31 2010. Some of these events were in actuality regional failures or overflows, which, if able to be tallied, would increase the total number of known, discrete overflows, etc.

The purpose of these assessments is to use existing data and reports (especially those specific to Rhode Island and the Northeast, such as work done by the RI Department of Health's drinking water section) to meet the following needs: (i) summarize the current state of climate change science and (ii) use this information to characterize potential impacts on Rhode Island's wastewater collection and treatment infrastructure and to develop strategies that can prevent damage as that experienced in March 2010. Such assessments will use data gathered from previous events, most especially the March 2010 flooding, as benchmarks to better understand threats to wastewater systems as well as strategies to address these threats. March 2015: The budget has been increased by \$4,395, the amount currently available in the DRGR Planning Project. In the summer of 2015, OHCD will increase the activity budget to \$150,000, in concert with other Action Plan changes. OHCD approved a scope change and budget increase of \$50,000. The scope is expanded to include modeling of inland flooding and development of new statewide maps depicting expanded inland flooding zones, based on flood elevations at 2-ft and 3-ft above the existing 100-yr floodplain and independent validation using stream gauge data and modeling studies. May 2015: The budget has been increased to \$150,000. See above. This activity budget increase required funds to be shifted from the PF&I project to the Planning project.

June 2015: National objective corrected to be NA, not Urgent Need (planning activity).



### **Location Description:**

Statewide study of wastewater collection and treatment infrastructure. This infrastructure directly collects and treats sewage from 70% of Rhode Island's residents and businesses via public sewers.

Wastewater infrastructure within the scope of this project includes: (i) the nineteen major wastewater treatment facilities (see Map C.1); (ii) vulnerable wastewater collection systems that service these nineteen treatment facilities, including any major wastewater collection pumping stations or wastewater collection lines that may be prone to flooding or storm surge; and (iii) the Narragansett Bay Commission's Combined Sewer Overflow tunnel system.

### **Activity Progress Narrative:**

# of Plans or Planning Products

Activity completed in prior quarter. Actual end date added.

## **Accomplishments Performance Measures**

This Report Period Cumulative Actual Total / Expected

Total Total

0 1/1

#### **Beneficiaries Performance Measures**

No Beneficiaries Performance Measures found.

## **Activity Locations**

No Activity Locations found.

# **Other Funding Sources Budgeted - Detail**

No Other Match Funding Sources Found

Other Funding Sources Amount



Activity Title: Johnston, Starr St. Flood Mitigation Study

Activity Category: Activity Status:

Planning Under Way

Project Number: Project Title:

Planning

Projected Start Date: Projected End Date:

08/01/2011 12/31/2015

Benefit Type: Completed Activity Actual End Date:
Area ( )

National Objective: Responsible Organization:

N/A Town of Johnston

Overall	Jul 1 thru Sep 30, 2017	To Date
Total Projected Budget from All Sources	N/A	\$15,605.00
Total Budget	\$0.00	\$15,605.00
Total Obligated	\$0.00	\$15,605.00
Total Funds Drawdown	\$0.00	\$15,605.00
Program Funds Drawdown	\$0.00	\$15,605.00
Program Income Drawdown	\$0.00	\$0.00
Program Income Received	\$0.00	\$0.00
Total Funds Expended	\$0.00	\$15,605.00
Town of Johnston	\$0.00	\$15,605.00
Most Impacted and Distressed Expended	\$0.00	\$0.00
Match Contributed	\$0.00	\$0.00

## **Activity Description:**

The purpose of the project was to conduct a flood mitigation feasibility study of an unnamed brook/wetland area between Venice Avenue and Starr Street. This area experienced significant flooding and road closures during the 2010 Floods. Changes to the flow conveyance of stormwater required permission (easements) from private property owners. The study assessed the legal, logistical, and environmental feasibility of flood mitigation measures in this area. As a result of this study, municipal flood mitigation measures in this area were deemed infeasible.

This activity is linked to canceled Activity #7, Johnston, Starr Street Drainage. Activity 7 was canceled and this activity as a result of the Town's determination Activity #7 was infeasible, due to the outcome of the environmental review and preliminary feasibility study.

OHCD expects to close out this activity in the next quarter.

#### **Location Description:**

Census Tract - 125, Block Group 2 (3052 total people; 1580 (51.8%) LMI).

Area bounded by Mill Street to the south, Venice Avenue to the west, Delucia Street to the east and Water Street to the north.

The project includes a segment of an unnamed brook which is tributary to Simmons Brook downstream to the Mill Street bridge. The Starr Street area is a mixed residential/industrial neighborhood that is typical of the development in the area.



# **Activity Progress Narrative:**

The Town has been requested to forward closeout documentation to OHCD.

# **Accomplishments Performance Measures**

This Report Period
Total

**Cumulative Actual Total / Expected** 

Total

# of Plans or Planning Products

0

0/1

## **Beneficiaries Performance Measures**

No Beneficiaries Performance Measures found.

# **Activity Locations**

No Activity Locations found.

# **Other Funding Sources Budgeted - Detail**

No Other Match Funding Sources Found

Other Funding Sources Amount



**Activity Title: CRMC**, Pawtuxet Watershed Modelling

**Activitiy Category: Activity Status:** 

**Planning Under Way** 

**Project Title: Project Number:** 

**Planning** 

11/01/2015 12/31/2017

**Completed Activity Actual End Date: Benefit Type:** 

**National Objective: Responsible Organization:** 

N/A State of Rhode Island, Coastal Resources Management

**Projected End Date:** 

Overall	Jul 1 thru Sep 30, 2017	To Date
Total Projected Budget from All Sources	N/A	\$175,059.00
Total Budget	\$0.00	\$175,059.00
Total Obligated	\$0.00	\$175,059.00
Total Funds Drawdown	\$59,465.68	\$169,811.91
Program Funds Drawdown	\$59,465.68	\$169,811.91
Program Income Drawdown	\$0.00	\$0.00
Program Income Received	\$0.00	\$0.00
Total Funds Expended	\$59,465.68	\$169,812.01
State of Rhode Island, Coastal Resources Management	\$59,465.68	\$169,812.01
Most Impacted and Distressed Expended	\$0.00	\$0.00
Match Contributed	\$0.00	\$0.00

### **Activity Description:**

**Projected Start Date:** 

Area ()

Flooding is currently ranked as one of RI's most devastating natural hazards, as demonstrated in the State's Hazard Mitigation Plan. During the 2010 Floods, inland and riverine flooding closed Interstate 95, shut down critical facilities, including major wastewater treatment facilities and electricity substations, and inundated residences and businesses.

CRMC and URI Ocean Engineering Dept. will develop an operational, spatially distributed hydrological/ hydraulic model for the Pawtuxet watershed and river, which include the river structure and geometry, to allow an analysis of the historical behavior of the watershedriver system. The model and analysis will include the Scituate Reservoir. The model will map the flood extent, continuously, for the river floodplain during the past events and for specific scenarios (e.g., 25yr event). This tool will then be used for recommendations with regard to mitigation and planning of flooding. The project will be a stepping stone for a real time forecasting tool, which not only predicts the stage levels at selected locations, but also the areas that are predicted to be inundated.

The planning product will be a GIS based map of the flood extent in the Pawtuxet River and Watershed for multiple storm/precipitation scenarios.

December 2015: The scope has been expanded to include analysis of the effect of river structures such as gates and dams on flood regulation. Dams and other hydraulic structures will be modeled. The budget has been increased from \$149,970 to \$175,059 to cover the increased scope.

#### **Location Description:**

Pawtuxet watershed and river, including the Scituate Reservoir. Primarily in Kent and Providence Counties.



# **Activity Progress Narrative:**

This activity is complete and a Final Report was issued in August. When the final payment request is completed, this activity will be closed out, next quarter.

# **Accomplishments Performance Measures**

This Report Period Cumulative Actual Total / Expected
Total Total

# of Plans or Planning Products

0 0/1

#### **Beneficiaries Performance Measures**

No Beneficiaries Performance Measures found.

# **Activity Locations**

No Activity Locations found.

# **Other Funding Sources Budgeted - Detail**

**No Other Match Funding Sources Found** 

Other Funding Sources Amount



Activity Title: URI, Scituate Reservoir Mit Model Recovery Plan

Activity Category: Activity Status:

Planning Planned

Project Number: Project Title:

6 Planning

Projected Start Date: Projected End Date:

09/01/2016 12/31/2018

Benefit Type: Completed Activity Actual End Date:

Area ()

National Objective: Responsible Organization:

N/A State of Rhode Island2

Overall	Jul 1 thru Sep 30, 2017	To Date
Total Projected Budget from All Sources	N/A	\$275,000.00
Total Budget	\$0.00	\$275,000.00
Total Obligated	\$0.00	\$275,000.00
Total Funds Drawdown	\$0.00	\$0.00
Program Funds Drawdown	\$0.00	\$0.00
Program Income Drawdown	\$0.00	\$0.00
Program Income Received	\$0.00	\$0.00
Total Funds Expended	\$0.00	\$0.00
State of Rhode Island2	\$0.00	\$0.00
University of Rhode Island	\$0.00	\$0.00
Most Impacted and Distressed Expended	\$0.00	\$0.00
Match Contributed	\$0.00	\$0.00

## **Activity Description:**

Disaster recovery planning includes floodplain management measures through mapping, zoning/building code ordinance revisions, floodplain ordinances, drainage basin studies directly related to impacts of the disaster, infrastructure and engineering studies necessary for disaster recovery and mitigation, and updating building requirements. All planning activities must address needs/impacts resulting from the March 2010 disaster.

Funds may be used to develop new floodplain maps and to update and improve existing maps.

Disaster recovery planning activities must provide long-term utility.

August 2016: Funds have been awarded to the University of Rhode Island for the Scituate Reservoir Mitigation Modeling Project. This study will investigate the concept of retrofitting the Scituate Reservoir spillway at the Gainer Dam to determine if it is feasible to release water prior to large storm events to create storage capacity within the Reservoir and reduce downstream flooding along the Pawtuxet River. This study involves developing and/or integrating models of 1) Scituate Reservoir impacts on drinking water supply, and 2) downstream Pawtuxet River flooding. Spillway management at the Gainer Dam has the potential to negatively impact water supply, or safe yield. Therefore, this study is designed to identify opportunities for downstream flood mitigation via spillway management without adverse impacts on safe yield. The final report will include sections on data, technical information on the safe yield simulation model, safe yield analysis, scenario selection, and analysis of spillway management alternatives.

January 2017: Budget adjusted from \$274,242 to \$275,000 to match the contract amount. The original DRGR



amount was limited by pending minor budget adjustments to other activities in DRGR.

## **Location Description:**

Rhode Island communities/watersheds that experienced significant flood impacts during the 2010 Floods, such as damages to residential and commercial structures, infrastructure, natural resources, or public assets.

August 2016: The Scituate Reservoir and Pawtuxet River watershed, located in Providence and Kent counties.

### **Activity Progress Narrative:**

This quarter, work was intitiated to develop, evaluate, and optimize the following models: Firm Estimator (USGS-MA); OASIS (Hydrologics): SWAT (USDA); EXCEL based model (Created at URI): and HEC-RAS Sim (in progress.) Literature review and research of relevant information and model testing is ongoing. The seepage loss and inconsistencies in Gainer Dam gage, controlled and uncontrolled release have been identified as major data needed to complete the research. Additionally, scenarios are being developed to emulate flood, drought, and insect defoliation.

## **Accomplishments Performance Measures**

**No Accomplishments Performance Measures** 

### **Beneficiaries Performance Measures**

No Beneficiaries Performance Measures found.

# **Activity Locations**

No Activity Locations found.

# **Other Funding Sources Budgeted - Detail**

No Other Match Funding Sources Found

Other Funding Sources Amount

No Other Funding Sources Found Total Other Funding Sources

# Monitoring, Audit, and Technical Assistance

Event Type	This Report Period	To Date
Monitoring, Audits, and Technical Assistance	1	18
Monitoring Visits	1	15
Audit Visits	0	0
Technical Assistance Visits	0	1
Monitoring/Technical Assistance Visits	0	2
Report/Letter Issued	0	16

